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CHAL 0249

Cy 4 of 5

22 July 1958

MEMORANDUM TO: DIRECTOR OF OPERATIONS

SUBJECT : Pilot Seat Ejection System Utilization

1. Prior to the advent of installing a Pilot Seat Eject System in project aircrafts, Headquarters established a directive on installation and utilization of the ejection seat as follows: "The ejection seat is to be installed for all flights except those flights which involve actual penetration missions."

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2. As a result of recent receipt of seat ejection modified aircrafts [] the following information has been received from these detachments.

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a. [] "I would like to have it (seat) available for overflights if possible. The ejection seat is highly desirable. Use of seat on penetration mission should be as directed by the situation."

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b. [] "For morale and standardization reasons, we wish to use the same seat as will be used for operational mission for all flights." (By operational they refer to the standard seat)

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3. If Headquarters is to maintain its present seat utilization policy, "B" detachment will tend toward non compliance and use the standard seat exclusively. Also, by maintaining this same directive, "C" detachment will be denied fulfillment of their considerations and suggestions as expressed in [] 4809. (See par 2.a. above)

4. Considerations: (Original Concept)

Weight penalty of seat	= 53 lbs.
Estimated altitude loss	= 53 ft.

Due to the smaller size of the seat pack used in the ejection seat, the survival components are fewer and therefore weigh less—more realistic figures would be:

Weight penalty of seat	= 53 lbs.
Weight saved on smaller seat pack	= <u>15 lbs.</u>
Total weight penalty	= 38 lbs.
Altitude loss	= 38 ft.

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- 2 -

Comfort - The new seating arrangement is considered to offer seating comfort favorable to the old seat.

Flight Safety - W/O the ejection seat, a successful egress is doubtful. With the seat, and in obedience of proper procedures already published and forwarded to detachments, successful egress is favorable.

Psychological Aspect - The pilots have since their original check-out flight expressed a continued disturbance at the omission of an ejection seat in the project aircraft. They consider unassisted bail-out as virtually impossible and ditching or rough terrain forced landing as conducive to personal ruin. The ejection seat will negate their expressed fears and satisfy their desires for a safe and facile way of evacuation.

Range - Off loading fuel to adjust gross take off weight to offset the weight penalty of the ejection seat results in decreasing the T. O. fuel quantity by 6 gallons. Though this procedure would produce the same basic flight altitude profile as when using the standard seat, it would result in a loss of 3.6 minutes of fuel duration and approximately 24 nautical mile range.

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SUMMARY: The disadvantage of using the ejection seat in the U-2 lies in the altitude loss penalty which amounts to approximately 38 ft. None other are apparent even though a comfort compromise was at first anticipated. The altitude loss may be exchanged for flight duration and range compromise by readjusting the Take Off fuel load to compensate for the weight of the ejection seat. (approximately 6 gals. of LFIA) This results in the loss of 3.6 minutes of flight and 24 nautical miles.

The advantages stated briefly are in providing a safe method of evacuation and psychological assurance to the pilot.

RECOMMENDATIONS: Headquarters has directed that the ejection seat be used on all flights excepting flights involving penetrations. This directive was based on an understanding that the ejection seat is of great benefit

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- 3 -

to flight safety but too costly in altitude limitation to afford that safety in penetration flights. Altitude advantage has been and still is our only defense. Now that the degree of altitude loss resulting from ejection seat installation has been determined as not being as excessive as originally anticipated, it is felt that the prevailing firm Headquarters policy could be modified. It is recommended that that part of the policy requiring ejection seat installation for training, ferrying, weather and peripheral flights be left unchanged. That part of the policy dictating standard seat installation for penetration flights could be changed to read, "type seat installed for penetration flight to be determined by mission duration, range and gross weight situation and subject to Commander's judgment and Pilot's desires.

SIGNED

[Redacted Signature Box]

Aviation Physiologist

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DPS/DCI/RJT:aem

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CHAL-0250

Page 1 of 4

Copy 13 of 14

23 July 1958

STAFF MEETING MINUTES - 22 July 1958

Personnel Present: Mr. Bissell
Col. Burke

Mr. Cunningham

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Mr. Reber

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Col. Geary, AFCIG-5
Col. Uhle, DCS/M

OLD BUSINESS:

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2. Edwards Test Schedule. [] presented to Mr. Bissell a paper prepared by [] as a result of the latter's recent visit to Edwards to discuss the Edwards test program. In general, some decisions apparently need to be made on the relative utility of some of the programs projected or in progress.

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ACTION: Mr. Bissell, []

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3. Edwards Emergency War Plan. [] stated this is progressing and that [] is working on it.

ACTION: Operations - SUSPENSE: 29 July.

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Mr. Bissell asked about a possible evacuation plan for Detachment B. [] said that the existing Mobility Plan would apply. Mr. Bissell commented that a local situation requiring evacuation from Adana would necessitate a move to [] but that if the situation were more general, a move to [] would be indicated.

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4. Headquarters T/O. Col. Burke said that as a result of continuing discussions on the Headquarters T/O, a reduction of 4 positions had been made which results in a current Headquarters T/O of [] positions. We

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are now in a position to send this revised package to the DD/S for approval.

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ACTION: Messrs. Cunningham and [] SUSPENSE: 29 July

5. Col. Burke's Visit to the Far East. Col. Burke requested all staff members to turn in to him before his departure for Detachment C (set for Thursday, 24 July) items to be discussed with []

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ACTION: All Staff Members - SUSPENSE: 23 July.

Col. Burke announced that since several items in the personnel field required discussion, it had been decided that [] would accompany him on the trip.

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6. Postponement of Operation []. The postponement of Operation [] was noted for the benefit of those staff members who may not have been aware of it. The extent of the delay cannot be finally determined at this point.

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ACTION: Mr. Bissell

NEW BUSINESS:

1. War Risk Insurance for Contractor Employees. Mr. Cunningham commented that this subject had been investigated in some detail several years ago with the conclusion that war risk insurance, although available, is almost prohibitively expensive. Mr. Bissell requested Mr. Cunningham to look into this subject again with the idea that the project might assume premiums on a monthly basis only, in the hope that such costs could be reduced to a manageable figure. Mr. Bissell said this subject requires an extremely careful examination particularly in view of the EWP in which we make a commitment to expend all reasonable efforts to keep civilians on the job.

ACTION: Mr. Cunningham - SUSPENSE: 29 July

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2. C-54 Utilization at Detachment B. [] presented some figures to show that utilization of the various C-54's at Detachment B has been quite high. Col. Geary commented that since the only approved missions of the C-54 are for support of the detachment, on each run there must be film or legitimate passengers aboard.

Mr. Bissell stated that in view of the current ME situation perhaps Detachment B should consider skipping an occasional R&R trip, even if it means that we will have to give some of the contractor personnel premium pay under the terms of their contracts. [] noted that occasionally the pickup of film at [] had been delayed because of the rigorous scheduling of R&R trips. Mr. Cunningham was requested to prepare a cable to Detachment B pointing out to [] that he has the authority, contracts not withstanding, to delay or reschedule R&R flights as he feels necessary.

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ACTION: Mr. Cunningham - SUSPENSE: 23 July

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3. Recruitment of Contractor Personnel. [] stated that 25X1A
contracts for the major suppliers (Lockheed, Hycon) will expire near the
end of 1958. Mr. Bissell noted several factors which would condition
the hiring of replacements:

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a. A current estimate of Russian interceptor capability.
[] was requested to come up with such an estimate as soon
as possible after informal talks with Hqs USAF, SAC, TAC and ATIC,
if he felt such to be necessary.

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ACTION: [] - SUSPENSE: 25 July (initial reading)

b. Whether or not Hycon is to be retained as the camera
field service contractor. A switch to Perkin-Elmer or ITEK is possible.

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ACTION: [] - SUSPENSE: 5 August.

c. The results of the panel meeting scheduled for 31 July
in Cambridge on successor projects. The consideration here is that
if it appears we will be in this business for several years, it becomes
more important to make a supplier change.

In this regard, Mr. Bissell requested [] to summarize 25X1A
the availability status of personnel other than contractor.

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ACTION: [] - SUSPENSE: 29 July.

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4. Support for Project 461-L. There was some discussion of a
memo which had been received from [] making certain 25X1A
proposals on Project 461-L. Mr. Bissell asked [] to read the
proposal and give his opinion as to whether it was reasonable.

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ACTION: [] - SUSPENSE: 29 July

It was noted that Eastman is to process the take of 461-L for
this season only. It had not been finally decided whether the take
from 461-L would be injected into the "T" system.

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ACTION: Mr. Reber, []

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5. Temporary Deactivation [] [] announced 25X1A
that the signal center [] would be deactivated effective
1 August for approximately five weeks. He had not received any answer
to his query [] as to whether their signal center [] 25X1A
could be closed for the same period.

TOP SECRET

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CHAL-0250
Page 4 of 4
Copy 13 of 14

6. Camera Reliability. Mr. Bissell commented that Dr. Rod Scott had made several recommendations on the subject of camera reliability. His analysis of the sources of continuing problems was similar to that made earlier by [] suggested that Dr. Scott and [] should probably return to the detachments for a period of time to advise on camera reliability.

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ACTION: []

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APPROVED:

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WILLIAM BURKE
Colonel, USAF
Deputy Director, DPS/ECI

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